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SHIPPING NOTICE NO. MACI 005/07 – Voyage Data Recorders

THIS NOTICE IS INTENDED TO OUTLINE THE POLICIES OF THE MARITIME AUTHORITY OF THE CAYMAN ISLANDS WITH REGARD TO VOYAGE DATA RECORDERS AND SIMPLIFIED VOYAGE DATA RECORDERS; AND TO OFFER OWNERS AND MANAGERS GUIDANCE ON THEIR SELECTION AND OPERATION.

THIS NOTICE IS DIRECTED PRIMARILY AT:

- OWNERS, MANAGERS OR OPERATORS OF CAYMAN ISLAND SHIPS;
- MASTERS OF CAYMAN ISLANDS SHIPS;

1. Background

- 1.1 Following several major shipping accidents in the 1980's where investigations were hampered by a lack of hard evidence into the circumstances surrounding the accidents, IMO developed specifications for marine Voyage Data Recorders, or VDRs. These VDRs were seen as the maritime equivalent to the "Flight Data Recorders" that have been an integral part of commercial aviation for several years.
- 1.2 In 1999 IMO adopted Resolution A.861(20) which made the fitting of VDRs compulsory for certain new ships from 2002 and introduced a program of

retrofitting VDRs to existing passenger ships. The resolution was amended in 2005 to include the retro fitting of a VDR or Simplified Voyage Data Recorder (S-VDR) to all existing Cargo Ships over 3000 GT.

- 1.3 The revised specifications for the S-VDR are intended to allow the interfacing of older analogue equipment which may be found on existing Cargo Ships.
- 1.4 Unless otherwise stated, the term “VDR” in this Shipping Notice refers to both “Voyage Data Recorders” and “Simplified Voyage Data Recorders”.
- 1.5 The carriage requirements for VDRs and S-VDRs are given in the following section.

2. Application

- 2.1 Voyage Data Recorders are currently required to be provided on ships as follows:
 - a) All Passenger Ships on international voyages;
 - b) All Ro – Ro Passenger Ships on international voyages; and
 - c) All Cargo Ships over 3000 GT on international voyages which were built after 01 July 2002
- 2.2 Voyage Data Recorders or Simplified Voyage Data Recorders are required to be provided on ships as follows:
 - a) Cargo Ships over 20,000 GT on international voyages which were built before 01 July 2002 at the first schedule drydocking after 01 July 2006 (but not later than 01 July 2009); and
 - b) Cargo Ships over 3,000 GT on international voyages which were built before 01 July 2002 at the first scheduled drydocking after 01 July 2007 (but no later than 01 July 2010)

3. Voyage Data Recorders and Accident Investigations

- 3.1 VDRs record information which is of considerable value when determining the circumstance the led up to an accident or incident. Even if the ship was not directly involved in an incident, data recorded by that ship’s VDR can prove invaluable to investigators¹.

¹ An Inspector appointed under Part XVIII of the Cayman Islands Merchant Shipping Law, or an investigator appointed by another State in accordance with the IMO Code for the Investigation of Marine Casualties and Incidents (A.849(20)).

- 3.1 Both VDRs and S-VDRs are required to record the following information:
- a) Date and time
 - b) The ship's position
 - c) The ship's speed
 - d) Bridge audio
 - e) VHF radio communications
 - f) Processed radar data (or, for S-VDR only, AIS data if radar data is not available)

- 3.2 In addition to the above data sets, a VDR should also record:
- a) Depth under the keel
 - b) Status of all mandatory bridge alarms
 - c) Rudder order and rudder position
 - d) Engine orders and engine response (rev/min or pitch), including any transverse thrusters.
 - e) Status of hull openings
 - f) Status of watertight doors and fire doors.
 - g) Wind speed and direction

- 3.3 Having the above information available for investigators helps to protect both ship owners and crews from inappropriate conclusions such as "human error" being reached due to a lack of evidence to the contrary.

4 "Ownership" of VDR Data

- 4.1 In 2002, IMO adopted MSC/Circ.1024 which contains guidelines on VDR ownership and recovery. These guidelines are fully supported by the Maritime Authority of the Cayman Islands (MACI).
- 4.2 Under these guidelines the ship owner will, in all circumstances and at all times, own the VDR and its information. However, in the event of an accident the owner of the ship must make available to an investigator the

information held by the VDR along with the decoding instructions necessary to recover the recorded information. Not making this data available to an Inspector appointed by MACI constitutes an offence under Part XVIII of the Cayman Islands Merchant Shipping Law (2005 Revision).

- 4.3 Preservation and recovery of VDR information should be undertaken as soon as possible after any accident to best preserve the relevant information for use by both the investigator and the ship owner. An investigator is unlikely to be able to instigate this action soon enough after the accident so the owner is responsible for ensuring the timely preservation of this evidence.
- 4.3 In cases when the vessel has to be abandoned, the master should take the necessary steps to preserve the VDR information until it can be passed to the investigator, **providing time and other responsibilities permit.**
- 4.4 In all circumstances, during the course of an investigation, the investigator will retain custody of the original VDR information in the same way that an investigator will retain custody of other records and evidence.
- 4.5 If the ship owner does not have a copy of the VDR data, a copy of this data will be provided by the investigator as soon as is possible.

5. Data downloading options

- 5.1 All VDRs have differing methods for downloading and decoding stored data. Many have the capability to transfer stored data directly to a lap top computer or onto a CD-ROM. This capability is not a mandatory requirement, but is recommended by IMO in SN/Circ.246. The Maritime Authority of the Cayman Islands strongly recommends that owners take note of SN/Circ.246 and provide VDRs with such capabilities to their ships.
- 5.2 Supplying a VDR with such a capability also has many benefits to the ship owner, such as:
 - a) Ship owners can download this data for review and use it for training purposes such as in effective bridge team management.
 - b) Ship owners can use downloaded VDR data to support their position in some commercial disputes and “Letter of Protest” situations.
 - c) In the event of an accident where the investigator can not download VDR data directly, it may be necessary to remove the VDR external Data Capsule from the ship to have the data retrieved by specialists ashore. If this were the case, the ship could

not comply with SOLAS V until the Data Capsule is either returned to the ship or replaced.

4. Annual Performance Testing

4.1 SOLAS V/18.8 requires annual performance tests to be performed on all VDR systems. These tests are to be carried out by an approved testing or servicing facility.

4.2 On completion of the annual performance tests, a certificate will be issued by the testing facility. This certificate must be retained onboard for inspection.

6 Operational Procedures

6.1 The company with the responsibilities defined in SOLAS IX/1.2 should ensure that the following requirements are addressed through their safety management system for all ships provided with VDR systems:

- a) Masters are aware of how to secure the data stored by the VDR;
- b) Masters are aware of when to secure the data stored by the VDR;
- c) Masters are aware of who must be given access to stored VDR data and that withholding such data from an Inspector appointed by MACI constitutes an offence under Cayman Islands Merchant Shipping law; and
- d) Provisions have been made for the annual performance tests to be carried out, as required by SOLAS V/18.8.